
Operation

Dialing operations

The DAC supports both keyboard and Hayes dialing sequences. The following discussion concerns features common to both dialing modes.

Port firmware in idle state

The port firmware is considered idle when it is expecting one of the allowed autobaud characters. The idle state is identified by either of the following conditions:

- The last prompt received was RELEASED (keyboard dialing).
- The last prompt received was OK, NO CARRIER, or ERROR (Hayes dialing).

Call Set-up abort

The user may abandon the call during the dialogue phase using one of the following methods:

- **Terminal off-line** This method is useful for RS-232-C interface only. The equipment drops Data Terminal Ready (DTR) to indicate an idle connection. For example, if the equipment is turned off, the DAC interprets that signal as an idle connection.

- **Long break** The user sends a break (transmit line held in the OFF or SPACE state) for more than 1.2 seconds. The break is not transmitted to the far end. At the end of the long break, the DAC port initiates call disconnect. The AILU converts the dropping of DTR into a long break for the RS-422 interface. The long break feature can be disabled through the Modify menu on the DAC port.
- **Three short breaks** When the user equipment transmits three breaks to the far end, the DAC abandons the call. Note that the breaks must be spaced at least 10 msec apart, and all three must occur within 3 seconds.

Make Port Busy on loss of DTR

This feature is implemented by means of the Make Set Busy (MSB) station feature. When this is activated, any attempt to reach the specified Data DN will result in a busy signal.

This application, which operates only in the RS-232-C mode, requires a non-standard RS-232-C interface. Only two of the possible sixteen RS-232-C modes can be used: Mode 8 (DCE, Host, Normal DTR, Manual dial), and Mode 12 (DCE, Terminal, Normal DTR, Manual dial). This feature is configured in the software, and is downloaded to the DAC.

A DTR timeout period is started whenever the DTR signal lead makes the transition to OFF. If DTR is returned to ON within the set time period (5 seconds), the DAC port operates as if this feature was not activated. If the DTR remains OFF beyond the 5 seconds, the system receives an MSB feature key message. The DAC sends another MSB message when the DTR returns to ON, and the port is able to receive inbound calls.

Note: If this feature is active, and the port is connected to a DTE that holds DTR OFF when idle, the port will be permanently busied out to inbound calls following the DTR timeout period.

Inactivity timeout

Once a successful data call is completed, the user's activity is monitored. If no activity occurs within the amount of time configured in the downloaded parameters, the DAC releases the call. Three minutes before the inactivity timeout takes place, the DAC sends a warning message to the near-end equipment if terminal mode is selected.

Wire test mode

The DAC allows for the EIA signaling leads to be tested to facilitate installation and troubleshooting. This feature can be invoked through the service change downloaded parameters, or by setting the appropriate front panel switch. Wire test mode only operates when the port is idle. The leads are cycled ON and OFF in 0.5 second periods (ON for 0.5 seconds, OFF for 0.5 seconds) for the number of cycles shown in [Table 1](#). The lead status can be monitored by the front panel LEDs. The test will be run indefinitely until the front panel switch is turned off, and the software wire test parameters are disabled.

Note: For the most accurate results, be sure no equipment is connected to the EIA leads.

Table 1
Wire test signal leads cycle counts

Label	EIA Signal Lead description	Pin	Cycle count	
			RS-232-C	RS-422
TxD	Transmit	2	1	1
RxD	Receive	3	2	2
CTS	Clear To Send	5	3	—
DSR	Data Set Ready	6	4	—
DCD	Carrier Detect	8	5	—
DTR	Data Terminal Ready	20	6	—
RI	Ring Indicator	22	7	—
Note: The CTS signal is not included in the faceplate LED. Therefore, a 1.5-second delay will occur between the RxD lamp going on, and the DSR lamp going on.				

Independent storage of dialing parameters

Two dialing parameters, DCD control, and Answer mode, can be modified by both keyboard and Hayes dialing commands.

The Hayes dialing mode also allows the user to modify the Input echo control, and Prompt/Result codes transmit control. With keyboard dialing, the Input echo control and Prompt/Response codes control are determined by the downloaded parameters. They cannot be altered through dialing commands.

The DAC maintains separate buffers for keyboard and Hayes dialing modes. Changes made to a given parameter in one mode do not affect that parameter in the other mode. When a dialing mode is selected, the DAC copies the corresponding dialing parameters into the active buffer. This buffer controls the call processing.

If the DAC receives an incoming call while idle, the most recent dialing mode is used to answer the call.

User input

User input may include either upper or lower case ASCII characters.

All entries are accumulated in an input record. This record is completed with a Terminator character. For keyboard dialing, this character is always <CR>; for Hayes dialing, it can be user defined (but default to <CR>). The entries are not processed until the Terminator character is received.

The input record is limited to 43 characters, including the Terminator, but excluding any ignored space characters.

The record can be edited by using the backspace and escape characters.